

Remarks:

This amendment is responsive to the Office Action mailed on September 2, 2003 setting a three month shortened statutory period for response expiring on December 2, 2003. Claims 1-11 stand rejected under 35 USC 112. Claims 19-21 were rejected under 35 USC 102(b). Claims 12-18 are allowed. In view of the above amendments and these remarks, claims 1-11 and 19-21 are now also believed to be allowable.

In the Office Action, claims 1-11 were rejected under 35 USC 112 as being indefinite. Claims 1, 4 and 5 have been amended to provide proper antecedent basis so as to overcome this rejection. The changes made to claims 1, 4, and 5 are grammatical and are not related in any way to prior art and thus are not substantive. The rejection under 35 USC 112 of claims 1-11 should now be withdrawn.

Means Plus Function Guidelines

Claims 19 -21 stand rejected as anticipated by Cheng. It is submitted that this rejection is misapplied and without merit. The Examiner is respectfully reminded that claim 19 is written in means-plus-function form and therefore deserves the analysis accorded to it by the USPTO as promulgated under the supplemental guidelines for the examination of claims written in accordance with 35 U.S.C. §112, ¶6. These guidelines are applicable to and guide the determination of the patentability of claim 19 in the present case. See Supplemental Examination Guidelines for Determining the Applicability of 35 U.S.C. 112, P6, 65 FR 38510, Federal Register Vol. 65, No. 120, June 21, 2000 hereinafter referred to as the "Guidelines."

It is respectfully submitted that the Examiner has failed to establish a prima facie case of unpatentability for the claims 19-21, and that the Examiner has failed to follow the relevant guidelines to establish such a case. Nevertheless, it is submitted that, when properly applied, the Guidelines require a finding of patentability of claim 19 as it is not anticipated by nor obvious in view of Cheng, as discussed below.

The Guidelines set forth a three-part determination as to the applicability of 35 U.S.C. §112, sixth paragraph. Part I of the Guidelines sets forth the requirements for determining whether the claim invokes 35 U.S.C. § 112, sixth paragraph. If the claim uses the phrase "means for," the phrase is modified by functional language, and the phrase and functional language is not

modified by sufficient structure to achieve the function, then it is presumed that the claim in fact invokes §112, ¶6.

Part II of the Guidelines sets forth requirements regarding whether the written description (specification and drawings) adequately describe the corresponding structure that carries out the recited function in the claims. This requirement is satisfied if the written description links or associates particular structure, material or acts to the recited function, or if one skilled in the art would have known what structure, material or acts perform the recited function.

Part III of the Guidelines sets forth requirements for establishing a prima facie case of equivalence by the Examiner, and involves a three-step inquiry: (1) whether the prior art element performs the function specified in the claim; (2) whether the prior art element is not excluded by any explicit definition provided in the specification for an equivalent; and (3) whether the prior art element is in fact an equivalent of the means-plus-function limitation.

The Guidelines further set forth four factors that will support a conclusion that the prior art element is an equivalent (step (3) above), as follows:

(3a) the prior art performs the identical function specified in the claim in substantially the same way, and produces substantially the same results as the corresponding element disclosed in the specification;

(3b) a person of ordinary skill in the art would have recognized the interchangeability of the element shown in the prior art for the corresponding element disclosed in the specification;

(3c) there are insubstantial differences between the prior art element and the corresponding element disclosed in the specification; and

(3d) the prior art element is a structural equivalent of the corresponding element disclosed in the specification.

A showing of at least one of these factors ((3a)-(3d)) will generally be sufficient to establish a prima facie case of unpatentability over the prior art element, after which the burden shifts to the Applicant to show that the prior art element is not an equivalent.

Claim 19 Analysis:

Claim 19 recites a "means for electrically and mechanically connecting the circuit board to a device outside the disc drive." The Examiner found claim 19 to read on the structure of FIG. 3 of Cheng. To sustain this finding, all three parts of the above Guidelines must be satisfied. Part I of the Guidelines is satisfied. The means-plus-function language is properly used.

Part II of the Guidelines is also satisfied. The recited function of claim 19 would be readily understood by one having ordinary skill in the art as being carried out by the disclosed structure including that described by Applicant on pages 5-9 of the specification and in the embodiments illustrated in FIGS. 2 - 4. This combination of the circuit board and connector housing presents a unique structure. In re Allapat 33 F.3d 1526 (Fed.Cir.1994). Hence, meeting the requirements of Part II of the Guidelines.

An analysis of the three-step inquiry of Part III provides that claim 19 is neither anticipated by nor obvious in view of Cheng. As such, Part III is NOT satisfied.

The first step (1) of the three-step inquiry of Part III requires a showing that the structure of Cheng carries out the recited function of "means for electrically and mechanically connecting the circuit board to a device outside the disc drive." The Applicants admit that the structure of FIG. 3 of Cheng carries out this function.

The second step (2) requires a finding that the prior art element is not excluded by any explicit definition provided in the specification for an equivalent. While no explicit definitions are provided in the specification, the Applicants rely on the positive recitation of the structure as implicitly defining the range of equivalents under §112, ¶ 6 as covering other structures that carry out the function of electrically and mechanically connecting the circuit board to a device outside of the disc drive as shown in FIGS. 2-4, and accordingly explicitly excluding structures that do not carry out the function as in FIGS. 2-4.

The third step (3) is satisfied if the Examiner can show FIG. 3 of Cheng to be equivalent to the Applicant's disclosed structure (e.g. FIG. 2 of Applicant's invention). The Examiner has appeared to claim that the elements of FIG. 3 of Cheng constitute a structural equivalent. This finding is respectfully traversed under any of the four (3a-3d) factors listed above.

As to factor (3a), the Court of Appeals for the Federal Circuit, in Kemco Sales, Inc. v. Control Papers Co., 54 USPQ2d 1308 (Fed.Cir.2000), provided a modified "function-way-result" test for the determination of 35 U.S.C. §112, ¶6 claim. The Court provided that "two structures may be 'equivalent' for purposes of section 112, ¶ 6 if they perform the identical function, in substantially the same way, with substantially the same result. *Id.* at 1315. See also *Odetics, Inc. v. Storage Tech. Corp.*, 185 F.3d 1259, 51 USPQ2d 1225 (Fed.Cir.1999).

Cheng and Applicant's present invention perform the identical recited function, of electrically and mechanically connecting a circuit board to a device outside the disc drive. But

Cheng performs the recited function **in a way that is substantially different** than the present invention.

Cheng is directed toward providing a connector with female contact structures (60 and 70) inside the connector housing that in turn project rearward to lie on a connector blade 36. This blade 36 constitutes a male connector that is then inserted into an edge connector that is not shown in Cheng. There is no mention even of a circuit board much less a structure such as is shown in Applicants specification.

The corresponding structure disclosed in the Applicant's specification that carries out the stated function of "electrically and mechanically connecting the circuit board to a device outside the disc drive" includes the tabs 220 and 240 on the circuit board itself (FIG. 2) and the housing tabs, e.g. 280 and 320 (FIG.2), together forming the connecting tabs 299 and 339. Therefore, the present invention electrically and mechanically connects a circuit board to an external device in a substantially different manner from Cheng and factor (3a) is not met.

As to factor (3b), a determination must be made whether or not one skilled in the art would have recognized the interchangeability of these two different systems. The Court of Appeals for the Federal Circuit stated that "the question of known interchangeability is an important factor in determining equivalence [under §112, ¶6]." *Al-Site Corp. v. VSI Int'l, Inc.* , 174 F.3d 1308, 1316, 50 USPQ2d 1161, 1165 (Fed.Cir.1999) citing *Chiuminatta Concrete Concepts v. Cardinal Indus., Inc.*, 145 F.3d 1303, 1309, 46 USPQ2d 1752, 1757 (Fed.Cir.1998). The Court of Claims provides that "[s]tated otherwise, equivalency is established where a person reasonably skilled in the art would have known of the interchangeability of an ingredient not disclosed in the patent with one that was." *Lockheed Aircraft Corp. v. United States*, 553 F.2d 69, 83, 193 USPQ 449, 461 (Ct.Cl.1977).

In the present case, these systems are NOT interchangeable. Cheng is directed to an adapter connector for mating an edge connector, that in turn connects a ribbon cable to the edge connector, to a complementary power and signal connector fastened to a PC board. Cheng, Col.4, lines 3-18. Therefore factor (3b) is not met.

As to factor (3c), the Examiner must find that there is an insubstantial change between the present invention and the prior art. The Court of Appeals for the Federal Circuit has repeatedly commented on the importance of determining the level of difference between the present invention and the prior art. *IMS Technology, Inc. v. Haas Automation, Inc.* , 206 F.3d

1422, 1436, 54 USPQ2d 1129, 1138 (Fed.Cir.2000) citing Odetics, Al-Site, and Chiuminatta. Also, the Court directs "a comparison of the structure in the accused device which performs the claimed function to the structure in the specification." Valmont Indus. v. Reinke Mfg. Co., 983 F.2d 1039, 1043, 25 USPQ2d 1451, 1455 (Fed.Cir.1993).

A perfunctory analysis of the "means for electrically and mechanically connecting" of the present invention with respect to Cheng provides that there is more than an insubstantial difference between them. Similar to the discussion of factor (3b), one basic difference exists as to when the "means for electrically and mechanically connecting" makes contact with a complementary connector. Cheng teaches compensating for disparities in pin locations within the complementary connector 14. Applicant's invention teaches a simplified structure for directly connecting a PCB tab with a corresponding connector, eliminating any need for such a connector as in Cheng. Another difference exists in the structure used to perform the function, specifically FIG. 3 of Cheng and FIGS. 2-7 of the present invention. As such, factor (3c) is not met.

Finally, as to factor (3d), the Examiner must find that the prior art and the present invention are structurally equivalent. In re Bond, 910 F.2d 831, 833 15 USPQ2d 1566, 1568 (Fed.Cir.1990). Looking specifically as FIGS. 2 and 3 of the present invention in comparison to FIG. 3 of Cheng, the Applicants submit that the additional structure, generally Applicant's FIG. 2, prevents a finding of structural equivalence. Therefore factor (3d) also is not met. As none of the factors (3a) through (3d) can be met by a comparison of the present invention with Cheng, the third step of the Part III inquiry fails. The steps of Part III must be met to provide a prima facie finding of 35 U.S.C. § 112, ¶ 6 equivalence. These steps were not met. **Therefore, the "means for electrically and mechanically connecting the circuit board to a device outside the disc drive" is neither anticipated by nor obvious in view of Cheng and therefore claim 19 is patentable.** It is respectfully requested that rejection under 35 USC 102(b) of independent claim 19 and its dependent claims 20 and 21 be withdrawn and the claims passed to issuance.

Conclusion

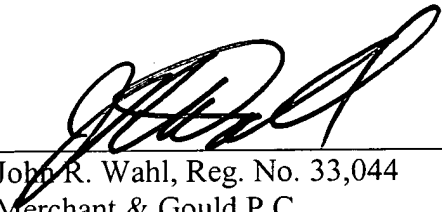
Claims 1 through 21 are pending in the application. All claims are believed to be allowable. This amendment is believed to be responsive to each and every point in the Office Action. In view of the above amendments and remarks, Applicant respectfully requests a Notice of

Allowance. If the Examiner believes a telephone conference would advance the prosecution of this Application, the Examiner is invited to telephone the undersigned at the below-listed telephone number.

Respectfully submitted,

12/2/03
Date

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